Ultimate Flexibility, Unmatched Code Reading

COGNEX

COGNEX

DATAMAN 280 SERIES FIXED-MOUNT BARCODE READERS

Premium decoding technology in a compact form factor

The DataMan 280 is an all purpose, all powerful barcode reader designed to perform in a variety of code-reading environments.

From hands-free code reading in a logistics facility to decoding direct part markings (DPMs) in a manufacturing plant, DataMan 280 readers increase traceability, and boost throughput by delivering the highest read rates.

DataMan 280

DataMan 282

Key features

High performance in a compact package

Improve throughput and productivity across a variety of applications using industry-leading 1D/2D algorithms, including HotBars and PowerGrid, and uniform lighting.

Robust reading

Operate in the most challenging code-reading environments with dynamic auto-focus and advanced high dynamic range imaging.
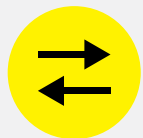
Flexible connectivity and communications

Increase efficiency and exchange information faster:

- 1 GB/second Ethernet
- Rapid image offload
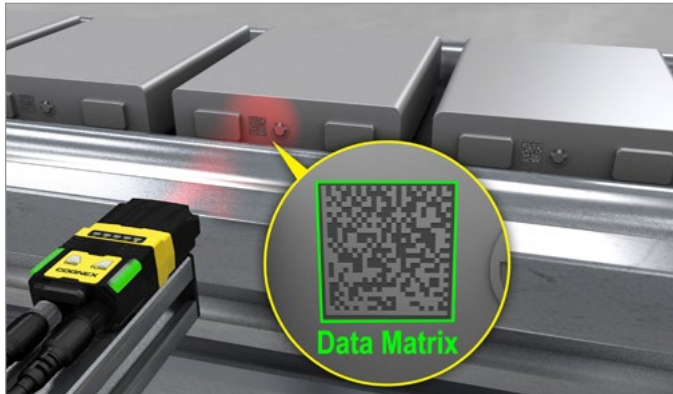- Easy data management
- Multi-reader sync

Out-of-the-box functionality

Unbox, install, and decode with fast, intuitive deployment even for specialized applications.

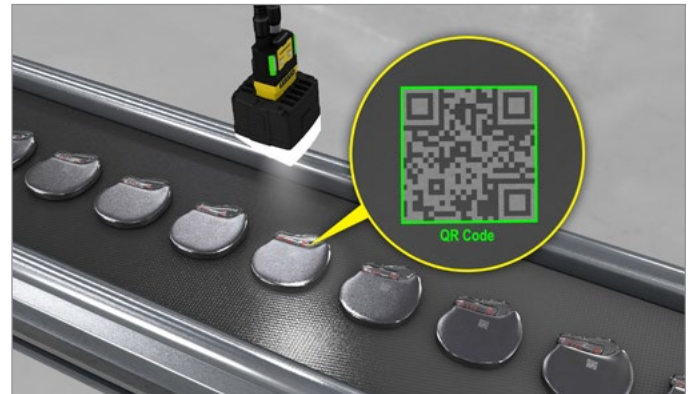# Solve tough manufacturing and logistics applications

DataMan 280 series barcode readers provide unprecedented read rates on 1D and 2D label-based codes and DPMs.
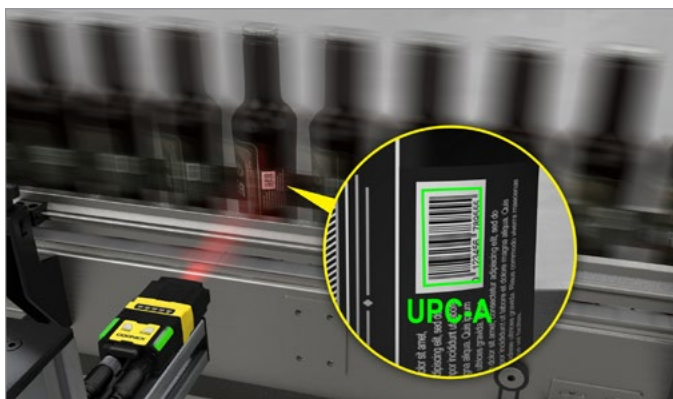
Automotive DPM reading

Easily decode difficult DPMs on automotive part surfaces.

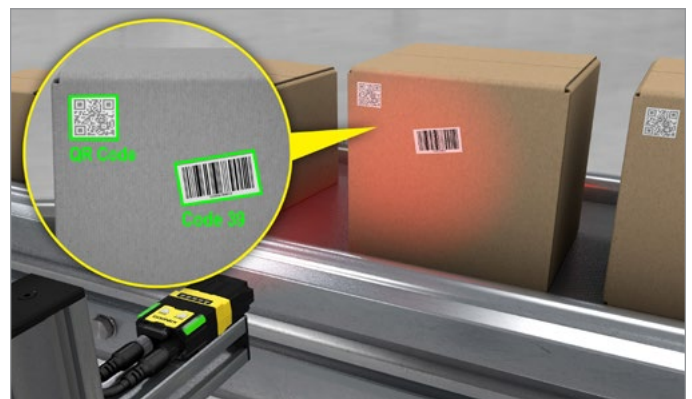### Medical device DPM reading

Accurately read and trace small DPMs on critical medical devices.

High-speed barcode reading

Reliably read every barcode on high-speed manufacturing lines.

Multiple barcode reading

Read multiple codes simultaneously in the field of view and offload images quickly.

Pallet code reading

Read 1D and 2D label-based codes on pallets, even codes behind specular wraps.

Hands-free barcode reading

Improve handling efficiency with a large depth of focus that accurately reads user-presented codes.

Take your operations to the next level with advanced reading and imaging technology

DataMan 280 series barcode readers leverage patented decoding algorithms and imaging technology to deliver unparalleled read rates for 1D and 2D label-based codes, as well as DPMs.
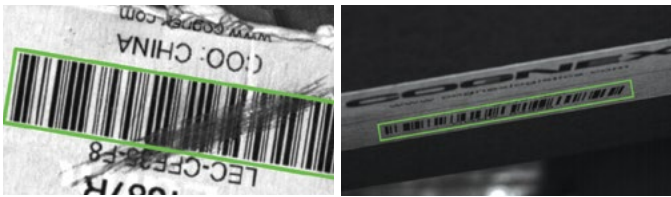

1DMax™ with Hotbars® is optimized for omnidirectional 1D barcode reading and decodes low-resolution codes up to 10X the speed of a conventional barcode reader.
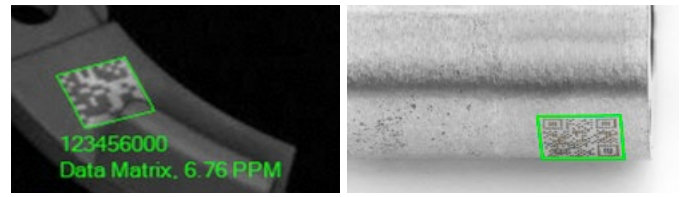
2DMax® with PowerGrid® is designed to read 2D codes (including QR codes) with significant damage or complete elimination of finder and clocking pattern, or quiet zone.
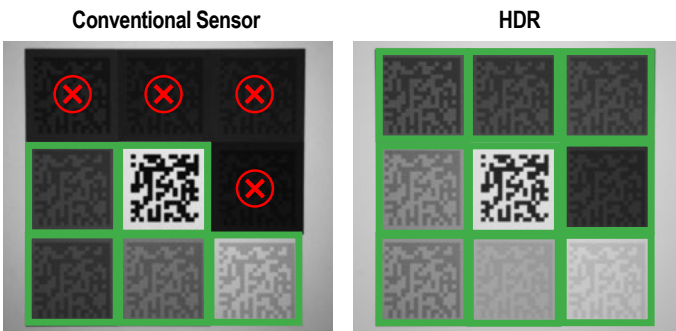
High Dynamic Range (HDR) enables you to read codes in low-contrast conditions, using an advanced image sensor to reduce dark noise, improve saturation capacity, and interpret low-light codes.
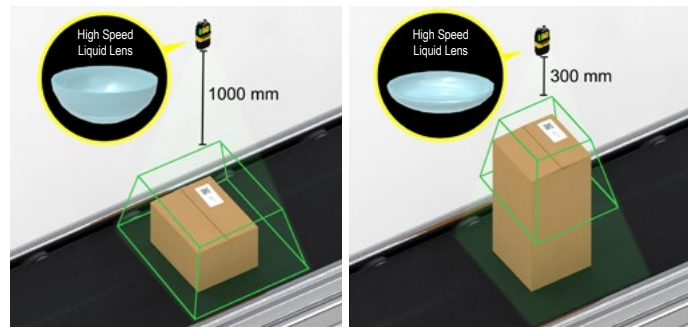

High-Speed Liquid Lens (HSLL) technology dynamically autofocuses without any mechanical parts, addressing high-speed, high-variability applications with fewer cameras and in less time.

Simplify setup and deploy real-time performance monitoring with Edge Intelligence

DataMan 280 series readers combined with Cognex Edge Intelligence (EI) transform big data into smart data to improve overall equipment effectiveness and throughput. EI allows users to configure multiple devices simultaneously, facilitating immediate system performance monitoring and analysis. The technology informs users when issues occur, allowing operators to identify and resolve root causes faster using powerful analytics and image view tools.

Connect via web browser
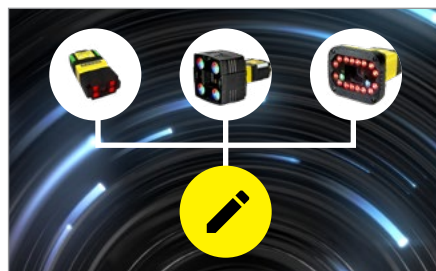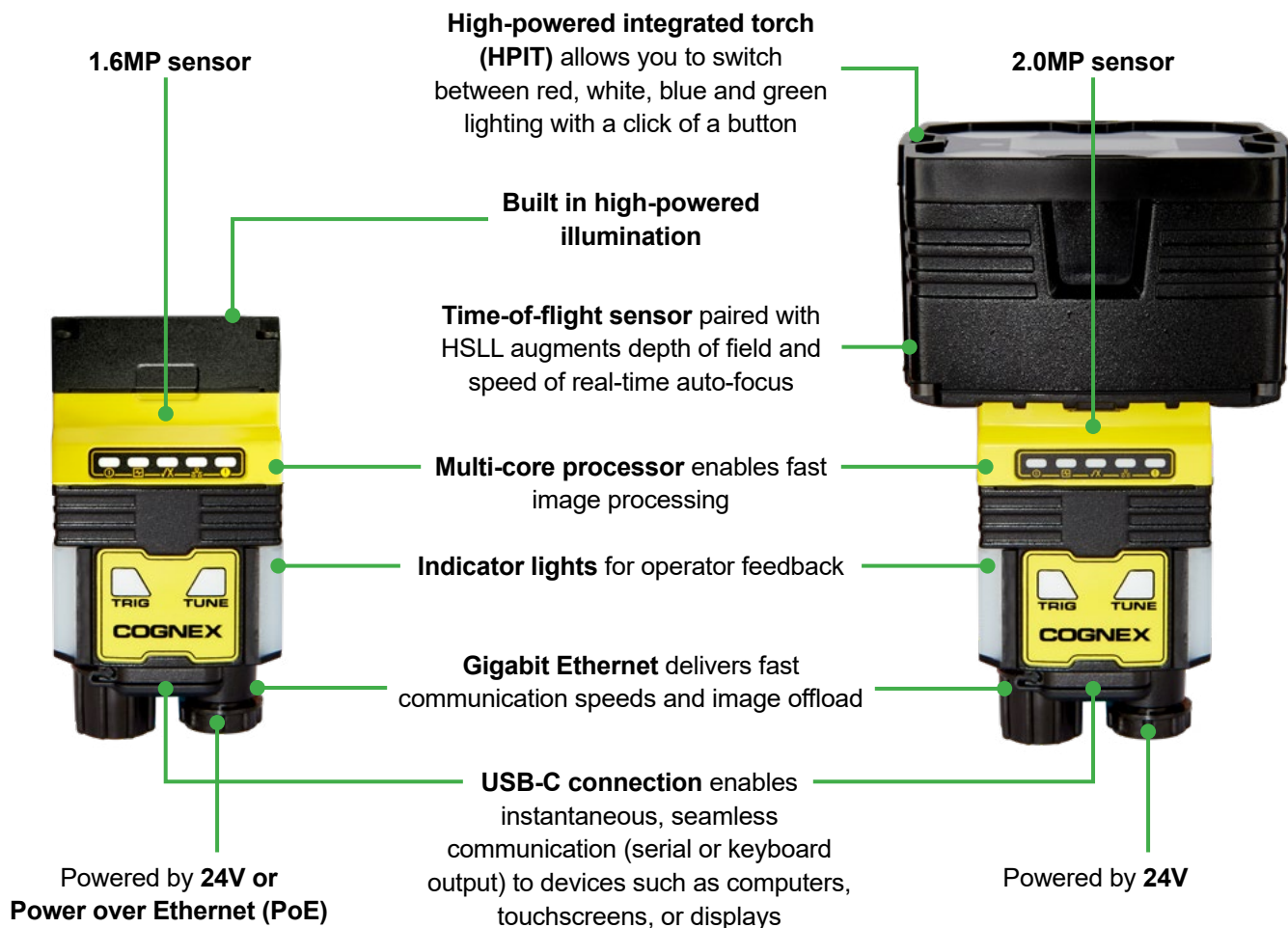

Configure multiple devices simultaneously

Identify performance trends and issues

Full-featured barcode reader addresses broad range of symbologies and markings

Accelerate throughput, achieve higher read rates, and be prepared for any code-reading challenge. DataMan 280 series barcode readers utilize patented decoding algorithms and imaging technology to deliver the highest read rates for DPMs and label-based codes.

DataMan 280

1.6MP sensor

High-powered integrated torch (HPIT) allows you to switch between red, white, blue and green lighting with a click of a button

DataMan 282

2.0MP sensor

Built in high-powered illumination

Time-of-flight sensor paired with HSLL augments depth of field and speed of real-time auto-focus

Multi-core processor enables fast image processing

Indicator lights for operator feedback

Gigabit Ethernet delivers fast communication speeds and image offload

USB-C connection enables instantaneous, seamless communication (serial or keyboard output) to devices such as computers, touchscreens, or displays

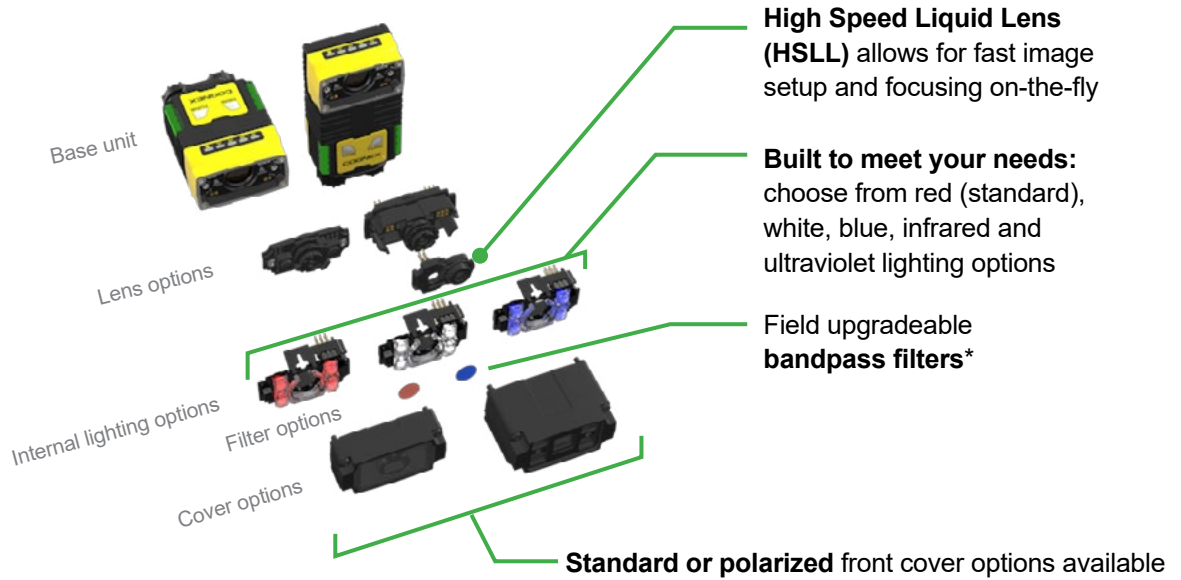Powered by **24V or Power over Ethernet (PoE)**

Powered by **24V**

Compact form factor with **in-line or right-angle configuration**

Flexible platform built for scalability

Whether you need a standard solution for straightforward decoding or advanced lighting and optics for specialized applications, the modular design of DataMan 280 series readers allows you to customize your reader to fit your needs. Readers are built to order and ready to address a variety of applications.
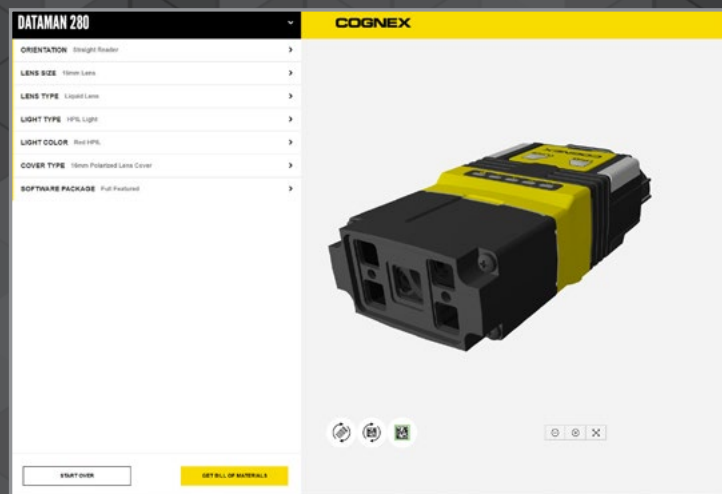
DataMan 280

Base unit

Lens options

Internal lighting options

Filter options

Cover options

High Speed Liquid Lens (HSLL) allows for fast image setup and focusing on-the-fly

Built to meet your needs: choose from red (standard), white, blue, infrared and ultraviolet lighting options

Field upgradeable **bandpass filters***

Standard or polarized front cover options available
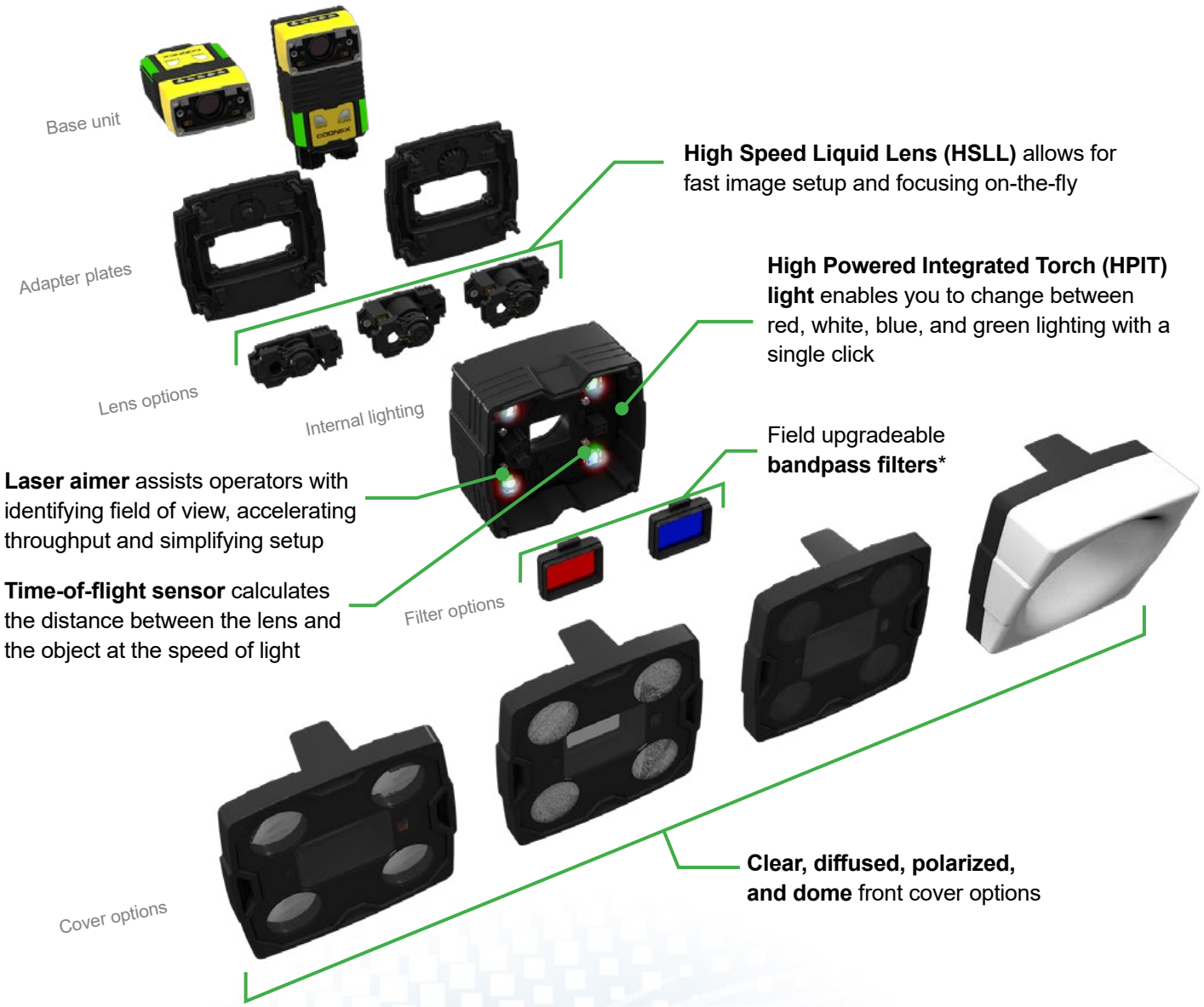
*Sold separately

Build YOUR reader

Select from different combinations of lenses, lighting, and covers to build your custom solution.

configurator.cognex.com/en/dataman280

DataMan 282

High Speed Liquid Lens (HSLL) allows for fast image setup and focusing on-the-fly

High Powered Integrated Torch (HPIT) light enables you to change between red, white, blue, and green lighting with a single click

Base unit

Adapter plates

Lens options

Internal lighting

Field upgradeable **bandpass filters***

Laser aimer assists operators with identifying field of view, accelerating throughput and simplifying setup

Time-of-flight sensor calculates the distance between the lens and the object at the speed of light

Filter options

Clear, diffused, polarized, and dome front cover options

Cover options

Enhanced code reading with a single click

DataMan 282 readers are equipped with the HPIT, enabling operators to quickly toggle between red, white, blue and green lighting options. The HPIT ensures you have the right lighting for your application, enabling optimal contrast, a greater depth of field, and higher read rates.

Multicolor lighting can also serve as a performance indicator, delivering immediate color-coded operator feedback.

*Sold separately

DATAMAN 280 SERIES SPECIFICATIONS

	DataMan 280	DataMan 282
Algorithms and Technologies	1DMax, 2DMax, Hotbars, PowerGrid	
Image Sensor	1/3" CMOS	1/2.8" CMOS
Image Sensor Properties	Diagonal 6.21 mm, 3.45 µm square pixels	Diagonal 6.17 mm, 2.8 µm square pixels
Image Resolution	1440 x 1080 pixels	1920 x 1080 pixels
Electronic Shutter Speed	Min. exposure: 29 µs Max. exposure: Up to 10 ms (internal illumination) / Up to 200 ms (external illumination)	
Acquisition	Up to 45 Hz	
Lens Options	6.2 mm or 16 mm High Speed Liquid Lens	8 mm, 12 mm, or 16 mm High Speed Liquid Lens
Trigger and Tune Buttons	Yes, with Quick Setup Intelligent Tuning	
Aimer	2 LEDs	Laser cross pattern (class 2)
Discrete Inputs	2 opto-isolated, 2 configurable	
Discrete Outputs	2 opto-isolated, 2 configurable	
Other I/O Points	2 user configurable as inputs or outputs	
Status Outputs	5 status LEDs, audible beeper, 2 visual indicator lights	5 status LEDs, audible beeper, 2 visual indicator lights, 4 HPIT light color options
Lighting	Standard: 4 LED lights for 6.2mm lens (red, blue, white, IR, and UV options) HPIL: 4 LED high-powered lights for 16 mm lens (red, white options) Optional bandpass filters. Front cover options: polarized/half-polarized and clear.	HPIT: 4 multi-color LED lights (red, green, blue, and white) Optional bandpass filters. Front cover options: clear, diffused, polarized and dome.
Communications	Serial and 1 GB/second Ethernet interface, USB-C, and keyboard capability	
Protocols	RS-232, TCP/IP, PROFINET (class B), EtherNet/IP™, SLMP, CC-Link, Modbus TCP, NTP, SFTP, FTP, MRS, Java Scripting enabled for custom protocols	
Power	24V +/- 10% and Power over Ethernet (PoE)	24V +/- 10%
Power Consumption	≤7.5W	
Material	Zinc alloy/aluminum	
Weight	6.2 mm: 141 g; 16 mm: 169 g Right angle configuration adds 50 g	290 g Right angle configuration adds 50 g
Operating Temperature	0–40° C (32–104° F)	
Storage Temperature	-10–60° C (14–140° F)	
Operating and Storage Humidity	<95% non-condensing	
Protection	IP67	
RoHS Certified	Yes	
Approvals	EU [CE], US [FCC], TUV, CB, NRTL, IEC 61010, Korea [KCC], India [BIS]	

Field of view diagrams
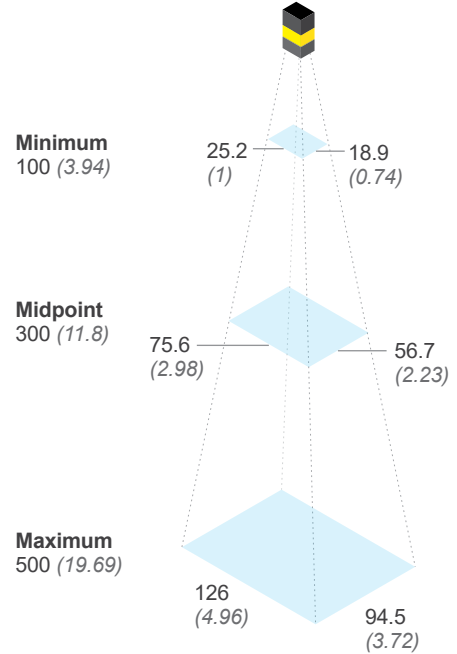
Working distances
Units: mm *(in)*

Minimum
50 *(1.97)*

Midpoint
300 *(11.8)*

Maximum
500 *(19.69)*

DataMan 280 with 6.2 mm lens

65 *(2.56)* — 48.7 *(1.92)*

195.1 *(7.68)* — 146.32 *(5.76)*

325 *(12.8)* — 243.8 *(9.6)*

DataMan 280 with 16 mm lens

Minimum
100 *(3.94)*

25.2 *(1)* — 18.9 *(0.74)*

Midpoint
300 *(11.8)*

75.6 *(2.98)* — 56.7 *(2.23)*

Maximum
500 *(19.69)*

126 *(4.96)* — 94.5 *(3.72)*
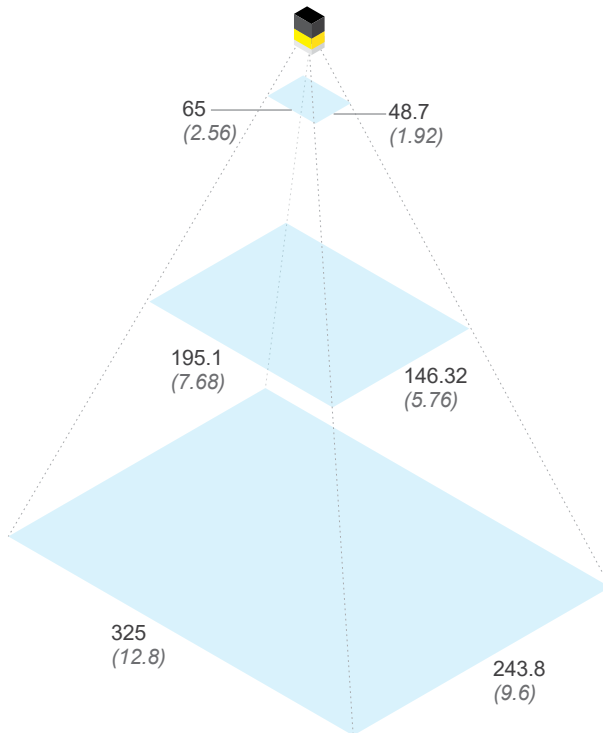
Working distances
Units: mm *(in)*

Minimum
300 *(11.81)*

Midpoint
750 *(29.53)*

Maximum
1200 *(47.24)*

DataMan 282 with 8 mm lens

223 *(8.78)* — 125 *(4.92)*

526 *(20.71)* — 295 *(11.61)*

828 *(32.60)* — 466 *(18.35)*
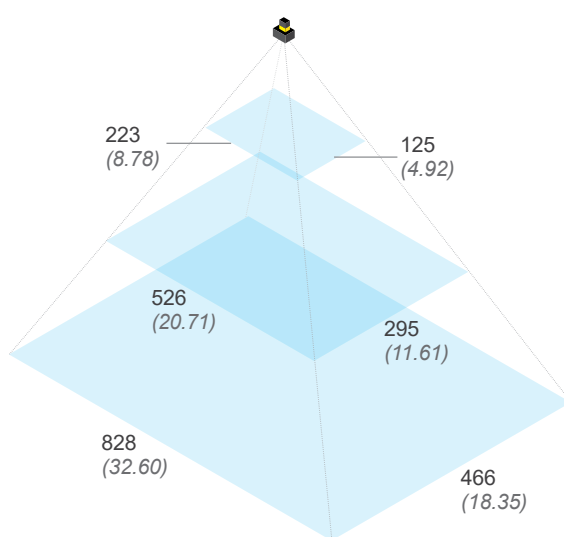
DataMan 282 with 12 mm lens

141 *(5.55)* — 79 *(3.11)*

343 *(13.50)* — 193 *(7.60)*

545 *(21.46)* — 306 *(12.05)*
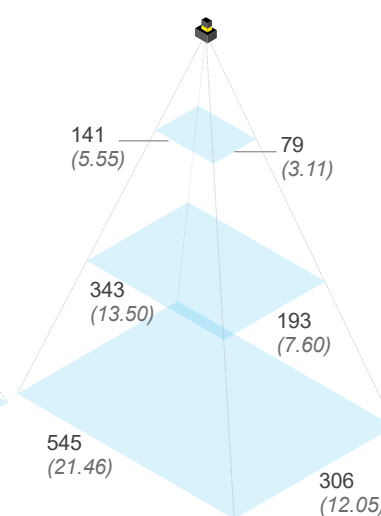
DataMan 282 with 16 mm lens

105 *(4.13)* — 59 *(2.32)*

256 *(10.08)* — 144 *(5.67)*

407 *(16.02)* — 229 *(9.02)*
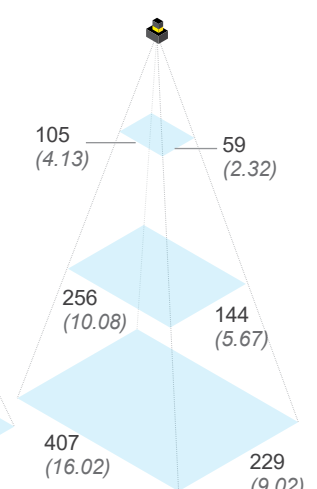
Focus distances

Minimum	Maximum
50 mm *(1.97)*	2000 mm* *(78.74)*

*Applications with working distances beyond 500 mm may result in an in-focus image but light uniformity/intensity will be significantly lower. External lighting is recommended for these scenarios.

Product configurations and descriptions*

DATAMAN 280 SERIES

	Resolution	Light	Lens	Cover	Orientation	Part Number
	1.6MP	Red HPIL	16 mm HSLL	Half Polarized	Straight	DMR-280X-MAX
					Right Angle	DMR-280X-1541-P
		Red Standard	6.2 mm HSLL	Clear	Straight	DMR-280X-1120
					Right Angle	DMR-280X-1121
	2.0MP	Multi Color HPIT	12 mm HSLL	Clear	Straight	DMR-282X-1960-C
			16 mm HSLL			DMR-282X-1940-C
			8 mm HSLL	Diffuse Dome		DMR-282X-1920-DOM

*This table includes only the most common product models. To get information on other available models, including angled configurations, please contact Cognex Sales at cognex.com/contact-sales.

Components and accessories

POWER AND I/O CABLES

	Product ID	Length	Description
	CCB-PWRIO-05	5M	M12-12 to flying lead, straight
	CCB-PWRIO-10	10M	
	CCB-PWRIO-15	15M	
	CCB-PWRIO-05R	5M	M12-12 to flying lead, right-angled
	CCB-PWRIO-10R	10M	
	CCB-PWRIO-15R	15M	

MOUNTING BRACKETS

	Product ID	Description
	DM100-UBRK-000	Universal mounting bracket
	DM100-PIVOTM-01	Pivot mounting bracket
	280-BKT-ADAPT	Flat surface mounting plate adapter for DM282 configuration

ETHERNET CABLES

	Product ID	Length	Description
	CCB-84901-2001-02	2M	X-coded M12-8 to RJ-45, straight
	CCB-84901-2001-05	5M	
	CCB-84901-2001-10	10M	
	CCB-84901-2001-15	15M	
	CCB-84901-2001-30	30M	
	CCB-84901-2002-02	2M	X-coded M12-8 to RJ-45, right-angled
	CCB-84901-2002-05	5M	
	CCB-84901-2002-10	10M	
	CCB-84901-2RBT-02	2M	Robotic X-coded M12-8 to RJ-45, straight
	CCB-84901-2RBT-05	5M	
	CCB-84901-2RBT-10	10M	
	CCB-M12X8MS-XCAC	0.5M	X-coded to A-coded Ethernet cable adapter

DataMan 280 accessories

BANDPASS FILTERS

	Product ID	Description
	DM150-BP470	Blue bandpass filter (6.2 mm lens only)
	DM150-BP635	Red bandpass filter (6.2 mm lens only)

FRONT COVERS*

	Product ID	Description
	DM280-CVR-62	Front cover (6.2 mm lens)—clear
	DM280-LENS-62CVR-P	Front cover (6.2 mm lens)—half polarized
	DM280-LENS-62CVR-F	Front cover (6.2 mm lens)—polarized
	DM260-LENS-16CVR	HPIL front cover (16 mm lens)—clear
	DM260-LENS-16CVR-P	HPIL front cover (16 mm lens)—half polarized
	DM260-LENS-16CVR-F	HPIL front cover (16 mm lens)—fully polarized

DataMan 282 accessories

BANDPASS FILTERS

	Product ID	Description
	280-TORCH-BP450	Blue bandpass filter (450 nm)
	280-TORCH-BP635	Red bandpass filter (635 nm)

FRONT COVERS*

	Product ID	Description
	280-HPIT-COVPOL	HPIT cross polarized cover
	280-HPIT-COVCLR	HPIT clear cover
	280-HPIT-COVDIF	HPIT diffused cover
	280-TORCH-DOME	HPIT dome attachment

Dimensions Units: mm, [in]

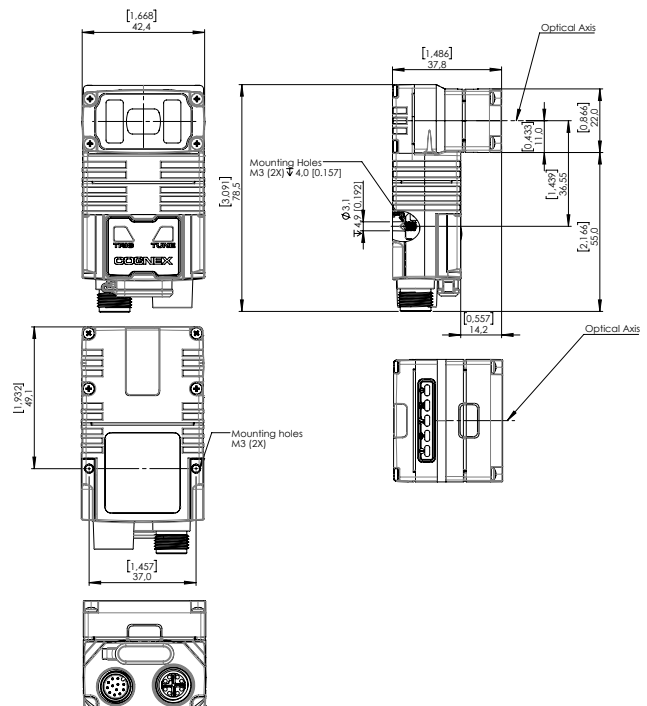## DataMan 280 with 6.2 mm lens front cover

Straight configuration
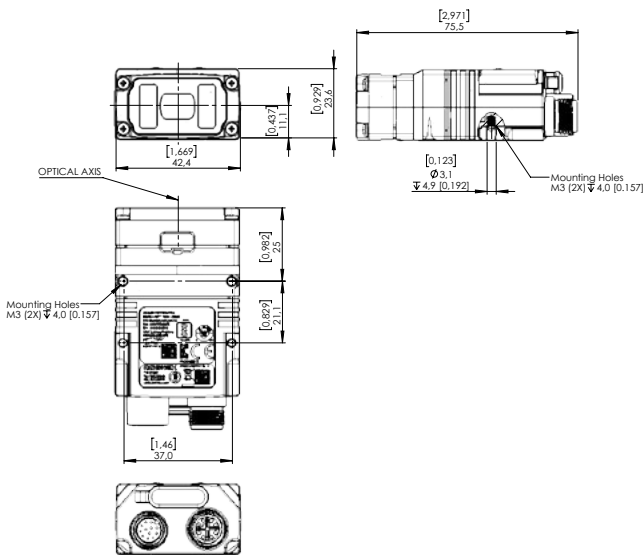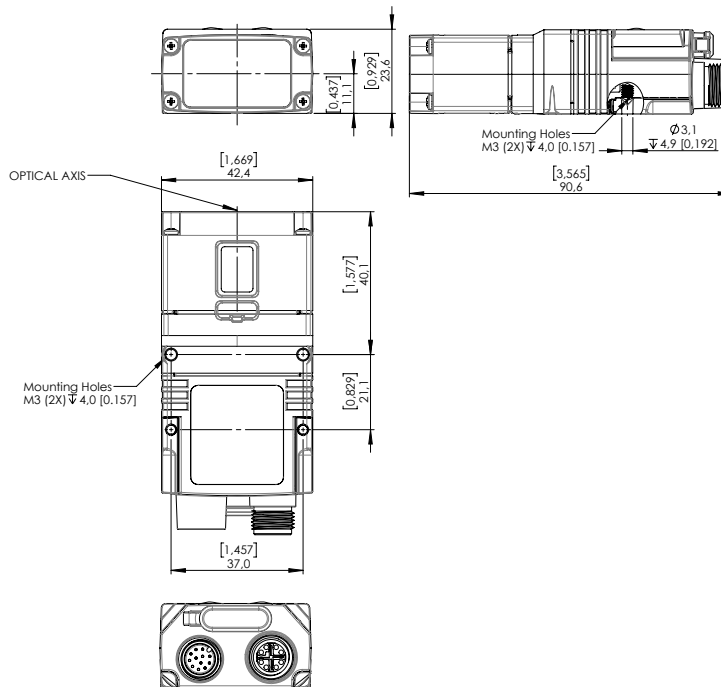
Download CAD files

Right angle configuration

Download CAD files

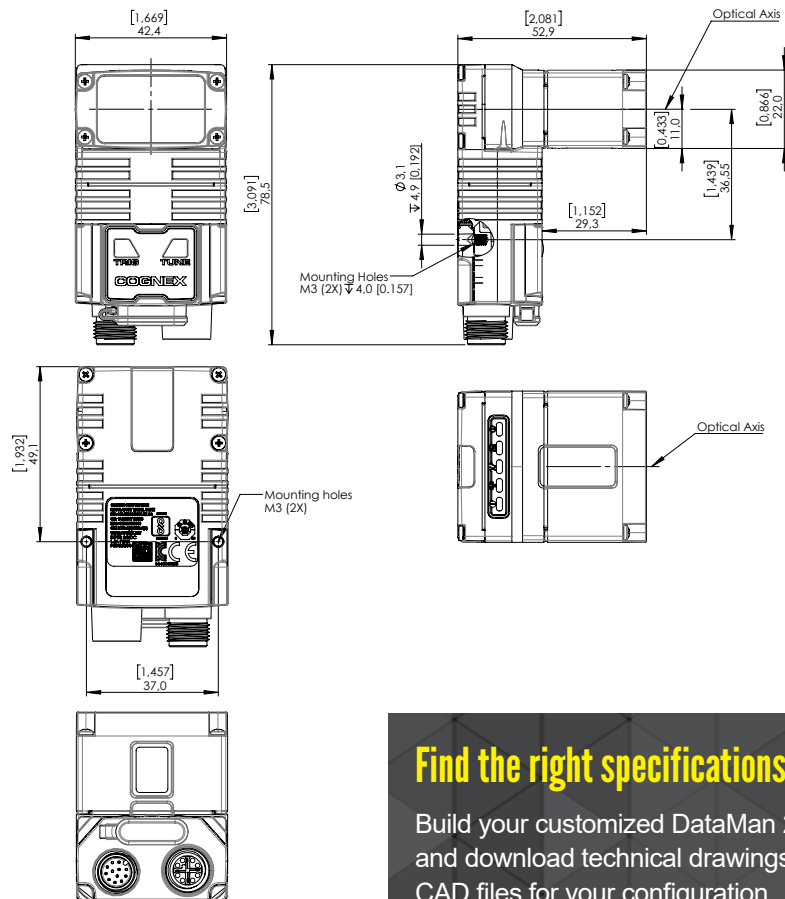**DataMan 280 with 16 mm lens HPIL front cover**

Straight configuration

Download CAD files

Right angle configuration

Download CAD files

Find the right specifications

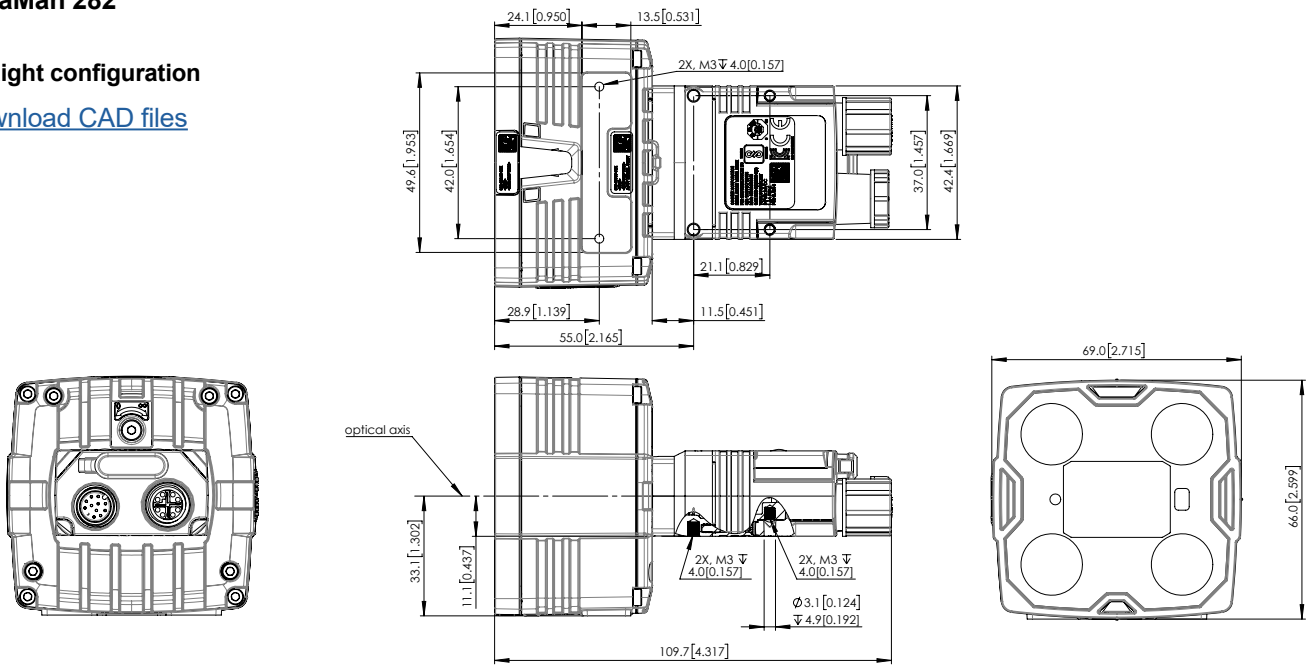Build your customized DataMan 280 and download technical drawings and CAD files for your configuration.
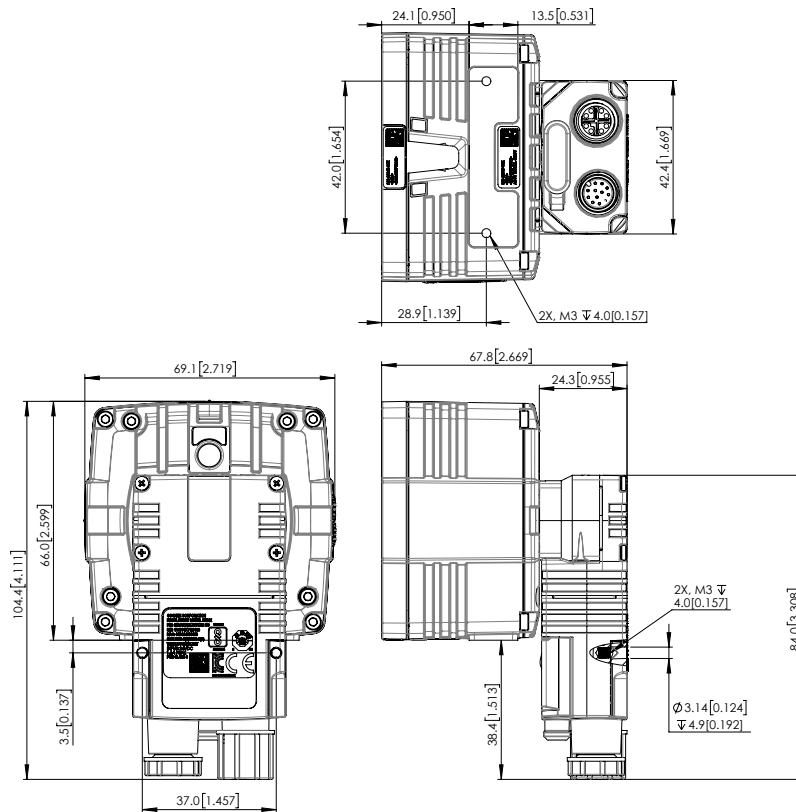
configurator.cognex.com/en/dataman280

DataMan 282

Straight configuration

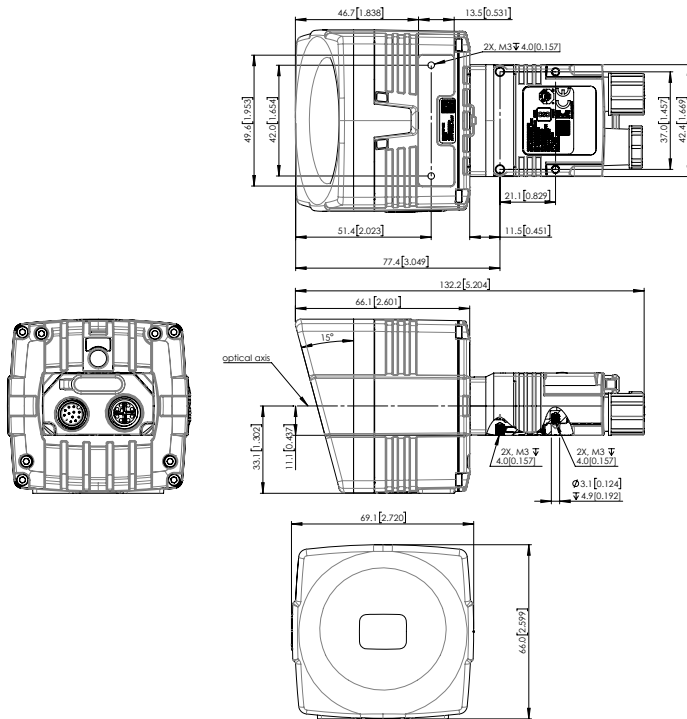[Download CAD files](#)

Right angle configuration

[Download CAD files](#)
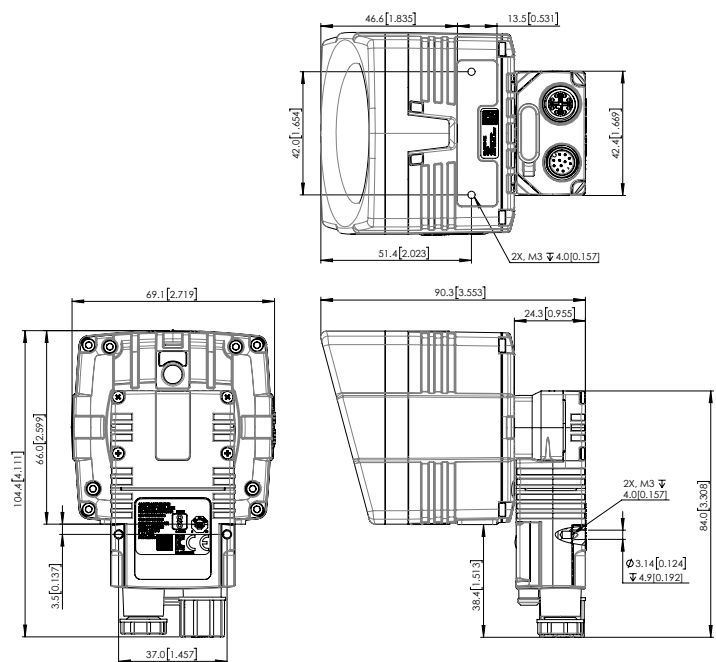
DataMan 282 with dome diffuser

Straight configuration

Right angle configuration

For more information, including software downloads, application examples, and product collateral, please visit:

cognex.com/dataman-280

COGNEX

Companies around the world rely on Cognex vision and barcode reading solutions to optimize quality, drive down costs and control traceability.

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